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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,319	08/26/2003	Toshio Masuda	520.34403C12	2030
20457	7590	09/14/2004	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			ALEJANDRO MULERO, LUZ L	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/647,319	MASUDA ET AL. 
	Examiner	Art Unit
	Luz L. Alejandro	1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. 08/611,758.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0803.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

### **DETAILED ACTION**

Please note that there is no support under 35 USC 1 12, first paragraph for the claimed subject matter in parent application 08/611,758. Therefore, the effective filing date of the currently pending claims is 01/08/99.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8-11, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii et al., U.S. Patent 5,571,366.

Ishii et al. shows the invention as claimed including a plasma etching apparatus 1 for etching of a sample comprising: an etching chamber 2, the sample W being disposed in said etching chamber; and a plasma generator 6a, 6b, 6c which generates a plasma for performing etching of said sample in said etching chamber; wherein said plasma generator includes an antenna disposed above the sample for radiating electromagnetic waves toward an interior of said etching chamber, a dielectric member disposed with respect to an outer periphery of said antenna, wherein the

electromagnetic waves are supplied by way of the dielectric member to the inside of the processing chamber, and a member 29 disposed above the sample in the processing chamber and facing the sample at the outer periphery of said antenna, the member being ring-shaped and heated, the sample being processed while enabling control of a temperature on a surface of said member (see fig. 1 and its description).

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Shamouilian et al., U.S. Patent 6,095,084.

Shamouilian et al. shows the invention as claimed including a plasma etching apparatus 50 for etching of a sample comprising: an etching chamber 55, the sample 60 being disposed in said etching chamber; and a plasma generator 135 which generates a plasma for performing etching of said sample in said etching chamber; wherein said plasma generator includes an antenna disposed above the sample for radiating electromagnetic waves toward an interior of said etching chamber, a dielectric member 145 disposed with respect to an outer periphery of said antenna, wherein the electromagnetic waves are supplied by way of the dielectric member to the inside of the processing chamber, and a member (see portion abutting member 145 and hanging down into the plasma chamber in fig. 2) disposed above the sample in the processing chamber and facing the sample at the outer periphery of said antenna, the member being ring-shaped and heated, the sample being processed while enabling control of a temperature on a surface of said member (see fig. 2 and its description).

With respect to claims 6-7 and 12-13, note that a heating device 115 is disposed outside of the chamber and heats the member.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Collins et al., U.S. Patent 6,024,826.

Collins et al. shows the invention as claimed including a plasma etching apparatus 50 for etching of a sample comprising: an etching chamber 55, the sample 17 being disposed in said etching chamber; and a plasma generator 142 which generates a plasma for performing etching of said sample in said etching chamber; wherein said plasma generator includes an antenna disposed above the sample for radiating electromagnetic waves toward an interior of said etching chamber, a dielectric member 152 disposed with respect to an outer periphery of said antenna, wherein the electromagnetic waves are supplied by way of the dielectric member to the inside of the processing chamber, and a member 63 disposed above the sample in the processing chamber and facing the sample at the outer periphery of said antenna, the member being ring-shaped and heated, the sample being processed while enabling control of a temperature on a surface of said member (see fig. 8A and its description).

With respect to claims 6-7 and 12-13, note that a heating device 172 is disposed outside of the chamber and heats the member.

Claims 1-6, 8-12, and 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Wicker et al., U.S. Patent 6,129,808.

Wicker et al. shows the invention as claimed including a plasma etching apparatus 100 for etching of a sample comprising: an etching chamber 102, the sample 104 being disposed in said etching chamber; and a plasma generator 128 which generates a plasma for performing etching of said sample in said etching chamber; wherein said plasma generator includes an antenna disposed above the sample for radiating electromagnetic waves toward an interior of said etching chamber, a dielectric member 122 disposed with respect to an outer periphery of said antenna, wherein the electromagnetic waves are supplied by way of the dielectric member to the inside of the processing chamber, and a member 130 disposed above the sample in the processing chamber and facing the sample at the outer periphery of said antenna, the member being ring-shaped and heated, the sample being processed while enabling control of a temperature on a surface of said member (see fig. 1 and its description).

With respect to claims 6 and 12, note that a heating device 140 heats the member.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al., U.S. Patent 5,571,366 in view of Collins et al., U.S. Patent 6,024,826 or Shamouilian et al., U.S. Patent 6,095,084.

Ishii et al. is applied as above but fails to expressly disclose a heating device for heating the surface of the member, where the heating device is disposed outside the processing chamber. Collins et al. discloses a heating device 172 outside the processing chamber (see Figure 8A and its description) and Shamouillian et al. also discloses a heating device 115 (see Figure 2 and its description). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Ishii et al. so as to include the heating devices of Collins et al. or Shamouilian et al. because it allows for temperature control of the apparatus.

***Conclusion***

This is a continuation of applicant's earlier Application No. 09/984052. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 571-272-1430. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 571-272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Luz L. Alejandro  
Primary Examiner  
Art Unit 1763

September 11, 2004